

REMARKS

This is a full and timely response to the final Office Action of January 13, 2004. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this Third Response, claims 1-61 remain pending in this application. Claim 27 is directly amended herein, and it is believed that this amendment adds no new matter to the present application. Further, the amendment to claim 27 corrects for a recently discovered error of a minor nature. It is believed that the amendment places the application in a better form for publication or appeal and does not require a new search by the Examiner. Entry of the amendment to claim 27 is respectfully requested pursuant to 37 C.F.R. §1.116.

Response to Double Patenting Rejections

It is asserted in the Office Action that claims 1, 15, 18, 21, 43, and 48 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 7, 11, and 12 of copending Application No. 09/715,253 ("the '253 application"), claim 2 of copending Application No. 09/715,892 ("the '892 application"), claim 1 of copending Application No. 09/715,746 ("the '746 application"), claim 1 of copending Application No. 09/715,600 ("the '600 application"), claim 1 of Application No. 09/715,882 ("the '882 application"), and claims 1, 7, and 8 of Application No. 09/715,232 ("the '232 application"). Applicants respectfully assert that a double patenting rejection based on a copending application is improper until such application issues into a patent. Thus, Applicants request that the instant application be allowed to issue, notwithstanding the '253, '892, '746,

and '600 applications, once the instant application is otherwise within a condition for allowance pursuant to M.P.E.P. §822.01.

In responding to the most recent paper mailed by Applicants, it is asserted in the Office Action that Application No. 09/715,882 and Application No. 09/715,232 have now issued into U.S. Patent No. 6,621,500 and U.S. Patent No. 6,680,739, respectively. Applicants reserve the right to address any double patenting rejections based on these patents for any claim that is otherwise found to be in a condition for allowance.

Response to §103 Rejections

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, "(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). In this regard, "(o)bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so." *ACS Hospital Systems, Inc., v. Montefiore Hospital*, 732 F.2d 1572, 1577; 221 U.S.P.Q. 929, 933 (Fed Cir. 1984).

Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as allegedly being unpatentable over *MacInnis* (U.S. Patent No. 6,573,905) in view of *Jenkins* (U.S. Patent No. 6,111,582).

Claim 1, as amended, reads as follows:

1. A graphical display system, comprising:
 - a first graphics pipeline configured to receive graphical data transmitted from a graphics application and to render said graphical data received by said first graphics pipeline;***
 - a second graphics pipeline configured to receive graphical data transmitted from said graphics application and to render said graphical data received by said second graphics pipeline;***
 - a display device configured to display an image; and
 - a compositor configured to receive said graphical data rendered by said first graphics pipeline and said graphical data rendered by said second graphics pipeline, said compositor further configured to interface said graphical data received by said compositor with said display device, wherein said image is based on said graphical data rendered by said first graphics pipeline and said graphical data rendered by said second graphics pipeline. (Emphasis added).

Applicants respectfully assert that the alleged combination of *MacInnis* and *Jenkins* fails to suggest at least the features of claim 1 highlighted above.

In this regard, it is asserted in the Office Action that *MacInnis* discloses:

“a first graphics pipeline (Figure 69, Column 112, lines 24-33) configured to receive graphical data transmitted from a graphics application... and to render said graphical data received by said first graphics pipeline (Figure 69, Column 112, lines 24-33); a second graphics pipeline configured to receive graphical data transmitted from said graphics application and to render said graphical data received by said second graphics pipeline (Figure 69, Column 112, lines 24-33).”

Applicants respectfully traverse the foregoing assertion that the alleged “first graphics pipeline” and “second graphics pipeline” render graphical data transmitted from the same “graphics application.”

In this regard, each of the alleged “pipelines” appears to render graphical data to be displayed in a different window, as compared to the other alleged “pipelines.” See Figure 61 and Column 112, lines 24-27. Thus, *MacInnis* appears to suggest using four different

“pipelines” to respectively render four different graphical images in four different graphical windows. See Column 112, lines 38-40. However, there is nothing in *MacInnis* to suggest that the images for any two of the windows rendered by different pipelines should be based on graphical data received from the same “graphics application.” In contrast, *MacInnis* specifically teaches that the multiple “windows” to be blended are created by multiple “software applications.” Column 96, lines 41-42. Thus, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1.

In maintaining the rejection of claim 1, it is asserted in the Office Action that:

“Applicant asserts...that MacInnis fails to disclose claims 1, 18, 43, 48 features of two distinct graphics pipelines receiving from a graphics application graphical data and each rendering an image on a display; nothing cited to indicate that a single graphical command is to control graphics for multiple windows; receive/controlling first and second pipeline portions; render portions of a 3D graphical object in a single window using multiple pipelines.

Examiner respectfully replies, however, that, as noted in paper number 8, the later MacInnis reference, U.S. Patent 6,573,905, MacInnis discloses multiple graphics pipelines dedicated to just graphics display processing (Figure 69, Column 112, 24-40) receiving graphical data sent from a graphics application (*Direct Draw, graphics accelerator*, Figure 3, elements 54, 56, 64, 74, Column 5, line 27, Column 6, lines 29-32; Column 7, lines 30-32; Column 58, line 50 through Column 59, line 12, *3D effects such as texture mapping...polygon shading*). In Figure 61, MacInnis discloses multiple graphical logical objects (windows with graphical data) merging into one graphics image (Column 96, line 55 – through Column 97, line 12; Column 120, lines 4-15).

MacInnis discloses pipeline communications synchronization logic in Figures 7 and 8, (Column 13, lines 2-22, *raw graphics data, pixel map, window descriptors*).”

Applicants respectfully submit that none of the above Office Action allegations establish that the multiple alleged “pipelines” of *MacInnis* render graphical data from the *same* “graphics application.” In particular, regarding the Office Action allegation that “*MacInnis* discloses multiple graphics pipelines dedicated to just graphics display processing (Figure 69, Column 112, 24-40) receiving graphical data sent from a graphics application,” Applicants assert that whether or not the alleged “pipelines” are “dedicated to just graphics display processing” is not

probative of whether or not the alleged “pipelines” render data from the same “graphics application.” In fact, since *MacInnis* teaches that each pipeline “independently” renders to a respective window, as described above, it appears that that each “pipeline” renders graphical data from a different graphics application. Thus, the Office Action allegation that the *MacInnis* “pipelines” are “dedicated to just graphics display processing” fails to establish that multiple ones of the alleged “pipelines” receive graphical data from the same graphics application, and the Office Action, therefore, fails to establish a *prima facie* case of obviousness. “The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

Further, regarding the Office Action allegation that *MacInnis* discloses “multiple graphical logical objects (windows with graphical data) merging into one graphics image...,” Applicants submit that the mere fact that multiple “objects” are displayed in the same “graphics image” does not necessarily imply that the graphical data defining the “objects” is received from the same “graphics application.” In fact, since *MacInnis* teaches that each pipeline “independently” renders to a respective window, as described above, it appears that that each “pipeline” renders graphical data to a respective window and, therefore, renders different graphical “objects.” Thus, the Office Action allegation that multiple “objects” are merged into “one graphics image” in *MacInnis* fails to establish that multiple ones of the alleged “pipelines” render graphical data from the same “graphics application” to define the same “graphics image,” and the Office Action, therefore, fails to establish a *prima facie* case of obviousness. “The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

In addition, regarding the Office Action allegation that “MacInnis discloses pipeline communications synchronization logic,” Applicants assert that whether or not the alleged “pipelines” are “synchronized” is not probative of whether or not the alleged “pipelines” render data from the same “graphics application.” Indeed, it is possible for each of the alleged “pipelines” to be “synchronized” and yet render graphical data from different graphics applications. In fact, since *MacInnis* teaches that each pipeline “independently” renders to a respective window, as described above, it appears that that each “pipeline” renders graphical data from a different graphics application regardless of whether the “pipelines” are “synchronized.” Thus, the Office Action allegation that that the “pipelines” of *MacInnis* are “synchronized” fails to establish that multiple ones of the alleged “pipelines” render graphical data from the same “graphics application” to define the same “graphics image,” and the Office Action, therefore, fails to establish a *prima facie* case of obviousness. “The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

For at least the above reasons, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 1. Accordingly, the 35 U.S.C. §103 rejection of claim 1 is improper and should be withdrawn.

Improper Combination

Applicants submit that the combination of *MacInnis* and *Jenkins* is improper, and the rejection of claim 1, therefore, should be withdrawn. In this regard, the Patent Office can satisfy its burden of establishing a *prima facie* case of obviousness “only by showing some objective

teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fine*, 5 U.S.P.Q. 1596, 1598 (Fed. Cir. 1988). (Emphasis added).

In an apparent attempt to justify the combination of *MacInnis* and *Jenkins*, it is asserted in the Office Action that “the motivation for combining multiple pipeline processing (as taught by *MacInnis*) with multiple sub-images with respective rendering means (as taught by *Jenkins*) is for efficient use of available connection bandwidth and allow rapid synchronization with broadcast event stream, load balancing, computational efficiency, level of detail and resolution suited to human needs.” However, there is nothing in the cited art to indicate that *MacInnis* is deficient in any of these categories such that one of ordinary skill in the art would be motivated, without the benefit of hindsight from Applicants’ disclosure, to combine *Jenkins* with *MacInnis*. Moreover, the Office Action fails to adequately establish a motivation for combining *MacInnis* and *Jenkins*, and the rejection of claim 1 under 35 U.S.C. §103 is, therefore, improper. “Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 175 F.3d 994, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

Claims 2-14, 31, 32, 39-42, and 52-61

Claims 2-8, 10, 12, 14, 31, 32, 39-42, 52-54, 56-59, and 61 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *MacInnis* in view of *Jenkins*. In addition, claims 9, 11, 13, 55, and 60 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *MacInnis* in view of *Jenkins* and in further view of *Duluk* (U.S. Patent No. 6,525,737). Applicants submit that the pending

dependent claims 2-14, 31, 32, 39-42, and 52-61 contain all features of their respective independent claim 1. Further, Applicants assert that *Duluk* does not satisfy the deficiencies of the cited art discussed above with reference to claim 1. Therefore, claim 1 is allowable, and pending dependent claims 2-14, 31, 32, 39-42, and 52-61 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features that make them allowable notwithstanding the allowability of claim 1.

For example, claim 4 presently reads as follows:

4. The system of claim 1, wherein:
said first graphics pipeline is configured to super-sample a first portion of a graphical object, said first graphical object portion defined by said graphical data rendered by said first graphics pipeline;
said second graphics pipeline is configured to super-sample a second portion of said graphical object, said second graphical object portion defined by said graphical data rendered by said second graphics pipeline; and
said compositor is configured to average data values of said first and second graphical object portions and to transmit said averaged data values to said display device. (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants assert that the alleged “pipelines” of *MacInnis* appear to independently render graphical data to different graphical windows, which are later blended by blenders 2730. See Figure 69. Thus, it appears that, for any one of the graphical windows, only one of the alleged “pipelines” renders the graphical objects that are to be displayed in the one window. In other words, it does not appear that multiple ones of the alleged “pipelines” render the *same* graphical object.

Therefore, even if it is assumed *arguendo* that the alleged “pipelines” of *MacInnis* perform “super-sampling,” as alleged in the Office Action, Applicants assert that the cited art fails to suggest using different “pipelines” to super-sample different portions of the same graphical

object. For at least this reason, Applicants respectfully submit that the cited art fails to suggest at least the features of claim 4 highlighted hereinabove.

In maintaining the rejection of claim 4, it is asserted in the outstanding Office Action that “(t)he Examiner respectfully notes, however, MacInnis discloses supersampling in multiple pipelines using object-based processing (Figure 17, Column 33, lines 27-29; 60-65; Figure 68, Column 106, lines 15-43).” First of all, Applicants submit that the term “object-based processing” in no way implies that the *MacInnis* “pipelines” render the same graphical object. Further, it is unclear how the cited portions of *MacInnis* suggest that multiple ones of the alleged “pipelines” render the same graphical object. In this regard, column 33, lines 27-29, refers to “the result of box-filtering 4x4 super-sampled graphical elements.” There is nothing in such a teaching to suggest that multiple ones of the alleged “pipelines” render and “super-sample” the same graphical object. Further, column 33, lines 60-65, refers to a color lookup table (CLUT). Noting that each of the alleged “pipelines” uses a different CLUT (see Figure 69), it is unclear how the description at column 33, lines 60-65, purportedly establishes that multiple ones of the alleged “pipelines” render and “super-sample” the same graphical object. Further, column 106, lines 15-43, describes window arbitration priorities and the blending of graphics windows. However, the blending of “windows” appears to occur *after* the graphical data for each of the windows has been rendered by the alleged “pipelines.” See column 106, line 28, and Figure 69, showing “graphics blenders” receiving data from the alleged “pipelines”). Thus, even if it is assumed that the alleged “pipelines” perform “super-sampling,” column 106, lines 15-43, fails to establish that multiple ones of the alleged “pipelines” render and “super-sample” the same graphical object.

For at least the reasons set forth above, Applicants assert that the Office Action fails to establish that the cited art suggests each feature of pending claim 4. Accordingly, the rejection

of claim 4 under 35 U.S.C. §103 is improper and should be withdrawn, notwithstanding the allowability of claim 1.

In addition, pending claim 7 recites a “third graphics pipeline configured to receive a plurality of graphics commands ... (and) to transmit each of said graphics commands including three-dimensional graphical data to at least one of said first and second graphics pipelines.”

Applicants respectfully assert that such features are not suggested by the cited art. In this regard, it is asserted in the Office Action that *MacInnis* discloses:

“a third graphics pipeline configured to receive a plurality of graphics commands (Column 59, lines 20-23; Figure 69, Column 112, lines 24-33), said third graphics pipeline configured to transmit each of said graphics commands including three-dimensional data (Column 59, line 9) to other graphics pipelines.”

As set forth hereinabove in the arguments for allowance of pending claim 1, the alleged “pipelines” shown in Figure 69 of *MacInnis* render data “independently” of each other. See column 112, line 25. There is nothing in *MacInnis* to indicate or suggest that any one of the alleged “pipelines” should transmit a graphical command to any of the other alleged “pipelines.”

Further, the section of *MacInnis* at column 59, line 9, does not indicate that one alleged “pipeline” transmits graphical commands to another alleged “pipeline,” as is apparently alleged in the Office Action. In this regard, in describing the operation of a *single* “graphics accelerator,” *MacInnis* states that the “**graphics accelerator is preferably capable of 3D effects** such as real time video warping and flipping, texture mapping, and Gouraud and Phong polygon shading, **as well as 2D and image effects** such as blending, scaling, blitting and filling.” Column 59, lines 7-12. (Emphasis added). Thus, by virtue of the foregoing assertions, *MacInnis* appears to suggest that the *same* “graphics accelerator” is to perform both 2D and 3D graphical rendering. However, there is nothing in the foregoing assertions by *MacInnis* to

suggest that one “ accelerator” or “pipeline” is to transmit a graphical command to another “accelerator” or “pipeline.”

In maintaining the rejection of claim 7, it is asserted in the Office Action that “MacInnis discloses pipeline communications synchronization logic in Figures 7 and 8, Column 13-, lines 2-22, *raw graphics data, pixel map, window descriptors*).” Applicants have reviewed the cited sections of *MacInnis* and respectfully observe that these sections fail to suggest “pipeline communications synchronization logic,” as is alleged in the Office Action. Further, even if it is assumed *arguendo* that *MacInnis* suggests “pipeline communications synchronization logic,” merely showing that the alleged pipelines are “synchronized” is insufficient for establishing that a “pipeline” is configured to “receive a plurality of graphics commands ... (and) to transmit each of said graphics commands including three-dimensional graphical data *to* at least one of said first and second graphics pipelines,” as described by claim 7. (Emphasis added).

For at least the reasons set forth above, Applicants assert that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 7. Accordingly, the rejection of claim 7 under 35 U.S.C. §103 is improper and should be withdrawn, notwithstanding the allowability of claim 1.

Further, claim 12 reads as follows:

12. The system of claim 1, wherein said graphics application is configured to produce graphical data that defines a three-dimensional graphical object within said image, ***wherein said graphical data rendered by said first graphics pipeline defines a first portion of said object and wherein said graphical data rendered by said second graphics pipeline defines a second portion of said object.*** (Emphasis added).

As described above in the arguments for allowance of claim 1, each of the alleged “pipelines” of *MacInnis* appears to “independently” render graphical data to a different “window.” Thus, in the alleged combination of *MacInnis* and *Jenkins*, multiple alleged “pipelines” rendering

graphical data composited by a “compositor” would not render the same “graphical object.” Accordingly, the alleged combination of *MacInnis* and *Jenkins* fails to suggest at least the features of claim 12 highlighted hereinabove, and the rejection of claim 12 should be withdrawn, notwithstanding the allowability of claim 1.

In addition, claim 14 reads as follows:

14. The system of claim 13, wherein:
said first graphics pipeline is configured to super-sample said graphical data rendered by said first graphics pipeline;
said second graphics pipeline is configured to super-sample said graphical data rendered by said second graphics pipeline; and
said compositor is configured to average data values from said graphical data super-sampled by said first and second graphics pipeline and to transmit said averaged data values to said display device. (Emphasis added).

Applicants assert that the cited art fails to suggest (1) a “first graphics pipeline” that “renders” and “super-samples” graphical data defining a “first portion” of a “three-dimensional graphical object” and (2) a “second graphics pipelines” that “renders” and “super-samples” a “second portion” of the *same* “three-dimensional graphical object,” wherein the “first graphics pipeline” discards the “second portion” and the “second graphics pipeline” discards the “first portion,” as described by claim 14, as well as claims 12 and 13 upon which claim 14 is based. Thus, the rejection of claim 14 should be withdrawn, notwithstanding the allowability of independent claim 1.

Also, claim 39 reads as follows:

39. The system of claim 1, wherein said graphics application is configured to transmit graphical data defining a graphical object, ***wherein said graphical data rendered by said first graphics pipeline defines a portion of said object, and wherein said graphical data rendered by said second graphics pipeline defines another portion of said object.*** (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 12, Applicants assert that the cited art fails to suggest at least the features of claim 39 highlighted

hereinabove. Accordingly, the 35 U.S.C. §103 rejection of claim 39 is improper and should be withdrawn, notwithstanding the allowability of claim 1.

In addition, claim 40 reads as follows:

40. The system of claim 1, wherein said graphics application is configured to transmit a graphical command, ***wherein said graphical data received by said first graphics pipeline is based on said graphical command, and wherein said graphical data received by said second graphics pipeline is based on said graphical command.*** (Emphasis added).

As described above in the arguments for allowance of claim 1, each of the alleged “pipelines” of *MacInnis* appears to “independently” render graphical data to a different “window.” Thus, in the alleged combination of *MacInnis* and *Jenkins*, multiple alleged “pipelines” rendering graphical data composited by a “compositor” would not render based on the same “graphical command.” Accordingly, the alleged combination of *MacInnis* and *Jenkins* fails to suggest at least the features of claim 40 highlighted hereinabove, and the rejection of claim 40 should be withdrawn, notwithstanding the allowability of claim 1.

Further, claim 52 reads as follows:

52. The system of claim 1, ***wherein said graphical data rendered by said first graphics pipeline is destined for a graphical window created by said graphics application and displayed by said display device, and wherein said graphical data rendered by said second graphics pipeline is destined for said graphical window.*** (Emphasis added).

It is asserted in the Office Action that the features of claim 52 are shown by *MacInnis* at Column 96, lines 59-61, and Figures 61 and 69. However, for at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants assert that each of the alleged “pipelines” of *MacInnis* render graphical data for a ***different*** “graphical window.” See column 112, lines 24-40. Accordingly, the Office Action fails to establish a *prima facie* case of obviousness with respect to at least the features of claim 52 highlighted hereinabove, and

Applicants request that the rejection of claim 52 be withdrawn, notwithstanding the allowability of claim 1.

Claim 53 reads as follows:

53. The system of claim 1, wherein said system further comprises:
a third graphics pipeline configured to receive graphical data transmitted from said graphics application and to render said graphical data received by said third graphics pipeline; and
logic configured to receive a graphical command from said graphics application and ***to detect whether said graphical command comprises two-dimensional (2D) and three-dimensional (3D) graphical data, said logic configured to enable said third graphics pipeline to render any 2D graphical data contained in said command and to enable said first and second graphics pipelines to render any 3D graphical data contained in said command.***
(Emphasis added).

Applicants assert that neither *MacInnis* nor *Jenkins* teaches separating 2D data and 3D data from the same graphics command and enabling a “third graphics pipeline to render any 2D contained in said command” and enabling “first and second graphics pipelines to render any 3D graphical data contained in said command.” Moreover, it appears in *MacInnis* that each alleged “pipeline” renders all of the graphical data destined for its respective graphical window. See column 112, lines 24-40. Thus, Applicants assert that the cited art fails to suggest at least the features of claim 53 highlighted hereinabove, and the rejection of claim 53 should be withdrawn, notwithstanding the allowability of claim 1.

Further, claim 54 recites “wherein each of said first and second graphics pipelines is configured to receive each three-dimensional graphical command transmitted from said graphics application.” Applicants have reviewed *MacInnis* and *Jenkins* and can find no teaching in either reference to suggest that ***each*** of two “graphics pipelines” receives ***each*** “three-dimensional graphical command” transmitted from a particular “graphics application.” Accordingly, Applicants submit that the cited art fails to suggest each feature of claim 54, and the rejection of this claim should be withdrawn, notwithstanding the allowability of claim 1.

In addition, claim 58 recites “wherein said second graphics pipeline is configured to receive each graphical command received by said first graphics pipeline.” Applicants assert that the cited art fails to suggest such features. Further, it appears that the Office Action fails to even allege that the cited art suggests such features. Accordingly, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with respect to claim 58, and the rejection of claim 58 should, therefore, be withdrawn, notwithstanding the allowability of claim 1.

Also, claim 59 reads as follows:

59. The system of claim 1, wherein said first graphics pipelines is configured to receive a graphical command from said graphics application, said graphical command having graphical data defining an image to be displayed by said display device, ***wherein said first graphics pipeline is configured to render all graphical data contained in said graphical command, and wherein said second graphics pipeline is configured to receive and process said graphical command.*** (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 40, Applicants assert that the cited art fails to suggest multiple “graphics pipelines” that are interfaced with the same “compositor” and receive the same “graphical command.” Accordingly, the cited art fails to suggest at least the features of claim 59 highlighted hereinabove, and the rejection of claim 59 should be withdrawn, notwithstanding the allowability of claim 1.

Claim 15

Claim 15 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Claim 15, as amended, reads as follows:

15. A graphical display system, comprising:
 a first pipeline means for receiving graphical data transmitted from a graphics application and for rendering said graphical data received by said first pipeline means;
 a second pipeline means for receiving graphical data transmitted from said graphics application and for rendering said graphical data received by said second pipeline means;
 a means for displaying an image; and
 a compositing means for receiving said graphical data rendered by said first pipeline means and said second pipeline means and for interfacing said graphical data received by said compositing means with said displaying means, wherein said image is based on said graphical data rendered by said first pipeline means and said graphical data rendered by said second pipeline means.
(Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants submit that the cited art fails to disclose at least the features of claim 15 highlighted hereinabove. Thus, the rejection of claim 15 under 35 U.S.C. §103 is improper and should be withdrawn.

Claims 16, 17, 33, and 34

Claims 16, 33, and 34 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Further, claim 17 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins* and in further view of *Duluk*. Applicants submit that the pending dependent claims 16, 17, 33, and 34 contain all features of their respective independent claim 15. Further, Applicants assert that *Duluk* does not satisfy the deficiencies of the cited art discussed above with reference to claims 1 and 15. Therefore, claim 15 is allowable, and

pending dependent claims 16, 17, 33, and 34 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 18

Claim 18 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Claim 18, as amended, reads as follows:

18. A graphical display system, comprising:
a first graphics pipeline configured to render a first portion of graphical data included in a graphical command;
a second graphics pipeline configured to render a second portion of graphical data included in said graphical command;
a display device configured to display an image; and
a compositor configured to receive said first and second graphical data portions from said first and second graphics pipelines and to interface said first and second graphical data portions with said display device,
wherein a first portion of said image is based on said first graphical data portion and a second portion of said image is based on said second graphical data portion, and wherein said first and second graphics pipelines render said first and second graphical data portions in parallel. (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claims 1 and 40, Applicants submit that each of the alleged “pipelines” of *MacInnis* renders graphical data to be displayed in a respective window. Further, there is nothing in the cited art to indicate that a single rendered graphical command is to control graphics for multiple “windows.” Therefore, Applicants respectfully assert that the Office Action fails to establish a *prima facie* case of obviousness with respect to at least the features of claim 18 highlighted hereinabove. Accordingly, Applicants request that the rejection of claim 18 be withdrawn.

Claims 19, 20, 35, and 36

Claims 19, 35, and 36 presently stand rejected in the Office Action under 35 U.S.C. §102(a) as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Further, claim 20 presently

stands rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins* and in further view of *Duluk*. Applicants submit that the pending dependent claims 19, 20, 35, and 36 contain all features of their respective independent claim 18. Further, Applicants assert that *Duluk* does not satisfy the deficiencies of the cited art discussed above with reference to claims 1, 15, and 40. Therefore, claim 15 is allowable, and pending dependent claims 19, 20, 35, and 36 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 21

Claim 21 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Claim 21, as amended, reads as follows:

21. A method for displaying graphical images, comprising:
receiving a graphical command, said graphical command including graphical data;
rendering, in parallel, a first portion of said graphical data via a first graphical pipeline and a second portion of said graphical data via a second graphical pipeline;
interfacing first and second rendered portions with a display device; and
displaying, via said display device, an image based on said first and second portions of graphical data. (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 18, Applicants submit that cited art fails to disclose at least the features of claim 21 highlighted hereinabove. Further, for a method claim, it is incumbent on the Patent Office to establish that a prior art device “in its normal and usual operation, would ***necessarily*** perform the method claimed.” (Emphasis added). M.P.E.P. §2112.02. Applicants respectfully submit that such a showing is not made in the outstanding Office Action. For at least the foregoing reasons, the rejection of claim 21 under 35 U.S.C. §103 is improper and should be withdrawn.

Claims 22-30, 37, and 38

Claims 22, 23, 25-28, 30, 37, and 38 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Further, claims 24 and 29 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins* and in further view of *Duluk*. Applicants submit that the pending dependent claims 22-30, 37, and 38 contain all features of their respective independent claim 21. Further, Applicants assert that *Duluk* does not satisfy the deficiencies of the cited art discussed above with reference to claim 18 and 21. Therefore, claim 21 is allowable, and pending dependent claims 22-30, 37, and 38 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Furthermore, these dependent claims recite patentably distinct features that make them allowable notwithstanding the allowability of claim 21.

For example, claim 27 presently reads as follows:

27. The method of claim 21, further comprising:
receiving a plurality of graphical commands at a third graphical pipeline;
determining which of said plurality of graphical commands include three-dimensional graphical data;
transmitting from said third graphical pipeline to other graphical pipelines each of said plurality of graphical commands determined to include three-dimensional graphical data;
rendering two-dimensional data from each of the remaining graphical commands via said third graphical pipeline; and
interfacing said two-dimensional data with said display device,
wherein said image displayed in said displaying is based on said two-dimensional data stored in said frame buffer, and wherein said first and second graphics pipelines are included in said other graphical pipelines. (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 7, Applicants assert that the cited art fails to suggest at least the features of claim 27 highlighted hereinabove. Thus, the 35 U.S.C. §103 rejection of claim 27 is improper and should be withdrawn, notwithstanding the allowability of claim 21.

Claim 43

Claim 43 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Claim 43 presently reads as follows:

43. A graphical display system, comprising:
a first graphics pipeline;
a second graphics pipeline;
logic configured to receive graphical data defining a three-dimensional graphical object to be displayed in a single graphical window, the logic configured to control said first graphics pipeline such that said first graphics pipeline renders, based on said graphical data, a first portion of said graphical object without rendering a second portion of said graphical object, said logic further configured to control said second graphics pipeline such that said second graphics pipeline renders, based on said graphical data, said second portion of said graphical object without rendering said first portion; and
a compositor interfaced with said first and second graphics pipelines.
(Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants assert that the alleged combination of *MacInnis* and *Jenkins* is improper. In addition, for at least the reasons set forth hereinabove in the arguments for allowance of claims 4 and 12, Applicants submit that the cited art fails to suggest a “first graphics pipeline” and a “second graphics pipeline” that are both “interfaced” with a “compositor” and that both render graphical data defining the same “three-dimensional graphical object.” Thus, the cited art fails to suggest at least the features of claim 43 highlighted hereinabove.

Further, even if it is assumed *arguendo* that the cited art suggests such a “first graphics pipeline” and a “second graphics pipelines,” Applicants assert that the cited art fails to suggest that each such “pipeline” renders the graphical data rendered by the other pipeline. Accordingly, the cited art fails to suggest that the “first graphics pipeline” renders a “first portion” of a graphical object “***without rendering a second portion of said graphical object***”

and that the “second graphics pipeline” renders the “second portion” of the graphical object **“without rendering said first portion,”** as described by claim 43. (Emphasis added).

For at least the foregoing reasons, Applicants assert that the cited art fails to suggest each feature of claim 43, and Applicants request that the 35 U.S.C. §103 rejection of this claim be withdrawn.

Claims 44-47

Claims 44-47 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Applicants submit that the pending dependent claims 44-47 contain all features of their respective independent claim 43. Since claim 43 should be allowed, as argued hereinabove, pending dependent claims 44-47 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 48

Claim 48 presently stands rejected under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Claim 48 presently reads as follows:

48. A graphical display method, comprising:
receiving graphical data defining a three-dimensional graphical object to be displayed in a single graphical window;
controlling a first graphics pipeline such that said first graphics pipeline renders a first portion of said graphical object without rendering a second portion of said graphical object;
controlling a second graphics pipeline such that said second graphics pipeline renders said second portion without rendering said first portion;
compositing said first and second portions; and
displaying a graphical image of said object based on said compositing.
(Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 43, Applicants submit that the cited art fails to disclose at least the features of claim 48 highlighted hereinabove. Thus, the rejection of claim 21 under 35 U.S.C. §103 is improper and should be withdrawn.

Claims 49-51

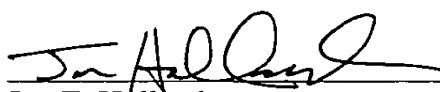
Claims 49-51 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *MacInnis* in view of *Jenkins*. Applicants submit that the pending dependent claims 49-51 contain all features of their respective independent claim 48. Since claim 48 should be allowed, as argued hereinabove, pending dependent claims 49-51 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted ,

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